



CCA Pressure-Treated Parallam PSL

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1. Product Identification

Product	Manufacturing Location(s)
Chromated Copper Arsenate (CCA) Pressure-Treated Wood and Lumber	USA: Buckhannon, WV; Colbert, GA Canada: Vancouver, BC

Synonyms: CCA Treated Laminated Lumber, CCA Treated Wood,

2. Hazardous Ingredients/Identity Information

Name	CAS#	Percent	Agency	Exposure Limits	Comments
Wood	None	>85	OSHA OSHA ACGIH ACGIH ACGIH Recommended ¹ Recommended ¹ Recommended ¹	PEL-TWA 15 mg/m ³ PEL-TWA 5 mg/m ³ TLV-TWA 5 mg/m ³ TLV-STEL 10 mg/m ³ TLV-TWA 1 mg/m ³ PEL-TWA 5 mg/m ³ PEL-STEL 10 mg/m ³ PEL-TWA 2.5 mg/m ³	Total dust Respirable dust fraction Softwood total dust Softwood total dust Selected hardwood total dust (beech, oak, others) Softwood or hardwood total dust Softwood or hardwood total dust Western red cedar total dust
Resin Solids ² Phenol Formaldehyde or Phenol Resorcinol Formaldehyde	None	15	OSHA OSHA ACGIH	PEL-TWA 0.75 ppm PEL-STEL 2 ppm TLV-Ceiling 0.3 ppm	Free gaseous formaldehyde Free gaseous formaldehyde Free gaseous formaldehyde
Chromium (III)	7440-47-3	<1 ³	OSHA ACGIH	PEL-TWA 0.5 mg/m ³ TLV-TWA 0.5 mg/m ³	As chromium As chromium
Arsenic (V)	7440-38-2	<1 ³	OSHA ACGIH	PEL-TWA 0.01 mg/m ³ TLV-TWA 0.01 mg/m ³	As arsenic As arsenic
Copper	7440-50-8	<1 ³	OSHA ACGIH	PEL-TWA 1 mg/m ³ TLV-TWA 1 mg/m ³	Dusts and mists Dusts and mists

¹ Weyerhaeuser recommended exposure limits based on 1989 OSHA PELs. In 1992, the U.S. Court of Appeals for the Eleventh Circuit Court overturned OSHA's 1989 Air Contaminants Rule, which included specific PELs for wood dust established by OSHA at that time. Wood dust is now officially regulated as an organic dust in a category known as "Particulates Not Otherwise Regulated" (PNOR), or Nuisance Dust. However, a number of states have incorporated the OSHA PELs from the 1989 standard in their state plans. Additionally, OSHA has announced that it may cite companies under the OSH Act general duty clause under appropriate circumstances for noncompliance with the 1989 PELs.

2. Hazardous Ingredients/Identity Information (cont'd.)

² These products contain less than 0.05% free formaldehyde.

³ Based on wood retention of 0.6 pounds CCA per cubic foot of wood. Actual retention percentage may vary slightly due to differences in wood stock and treatment retention levels.

3. Hazard Identification

Appearance and Odor: CCA treated Parallam is light green in color consisting of douglas fir, southern yellow pine, hemlock or yellow poplar with a woody odor.

Primary Health Hazards: The primary health hazard posed by these products is thought to be due to exposure to wood dust.

Primary Route(s) of Exposure:

- ☐ Ingestion:
- ☒ Skin: Dust
- ☒ Inhalation: Dust
- ☒ Eye: Dust

Medical Conditions Generally Aggravated by Exposure: Wood dust may aggravate pre-existing respiratory conditions or allergies.

Acute Health Hazards: Wood dust can cause eye irritation. Certain species of wood dust can elicit allergic contact dermatitis in sensitized individuals. Wood dust may cause respiratory irritation, nasal dryness, coughing, sneezing, wheezing as a result of inhalation.

Chronic Health Hazards: Wood dust, depending on the species, may cause allergic contact dermatitis and respiratory sensitization with prolonged, repetitive contact or exposure to elevated dust levels. Prolonged exposure to wood dust has been reported by some observers to be associated with nasal cancer.

Carcinogenicity Listing:

- ☒ NTP: Wood dust, Formaldehyde and Arsenic (as Arsenic Compounds, inorganic)
- ☒ IARC Monographs: Wood dust, Formaldehyde, Arsenic (and arsenic compounds) and Chromium (metallic)
- ☒ OSHA Regulated: Arsenic and Formaldehyde gas

NTP:

Wood Dust

According to its *Tenth Report on Carcinogens*, NTP states, "Wood dust is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans. An association between wood dust exposure and cancer of the nose has been observed in many case reports, cohort studies, and case-control studies that specifically addressed nasal cancer. Strong and consistent associations with cancer of the nasal cavities and paranasal sinuses were observed both in studies of people whose occupations are associated with wood dust exposure and in studies that directly estimated wood dust exposure."

Formaldehyde

According to its *Tenth Report on Carcinogens*, NTP states, "Formaldehyde (gas) is *reasonably anticipated to be a human carcinogen* based on limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals (IARC 1982, 1987, 1995)."

Arsenic (as Arsenic Compounds, inorganic)

According to its *Tenth Report on Carcinogens*, NTP states, "Inorganic arsenic compounds are *known to be human carcinogens* based on sufficient evidence of carcinogenicity in humans (IARC 1987). Many cases of skin cancer have been reported among people exposed to arsenic through medical treatment with inorganic trivalent arsenic compounds. In some instances, skin cancers have occurred in combination with other cancers, such as liver angiosarcoma, intestinal and urinary bladder cancers, and meningioma. Epidemiological studies of cancer after medical treatment with arsenic have shown an excess of skin cancers, but no clear association with other cancers has been obtained."

3. Hazard Identification (cont'd.)

IARC:

Wood Dust

Group 1 (Carcinogenic to humans; sufficient evidence of carcinogenicity). This classification is primarily based on studies showing an association between occupational exposure to wood dust and adenocarcinoma of the nasal cavities and paranasal sinuses. IARC did not find sufficient evidence of an association between occupational exposure to wood dust and cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum.

Formaldehyde

Group 1 (Carcinogenic to humans; sufficient evidence of carcinogenicity). A working group of IARC has determined that there is sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, a rare cancer in developed countries.

Arsenic (and arsenic compounds)

Group 1 (Carcinogenic to humans; sufficient evidence of carcinogenicity). This evaluation applies to arsenic and arsenic compounds as a whole and not necessarily to all individual chemicals within the group. Arsenic pentoxide, the arsenic compound used in the product, has not been associated with carcinogenicity.

Chromium (metallic)

Group 3 (Not classifiable as to its carcinogenicity to humans).

4. Emergency and First-Aid Procedures

Ingestion: Not applicable under normal use.

Eye Contact: Wood dust may cause mechanical irritation. Treat dust in eye as foreign object. Flush with water to remove dust particles. Get medical help if irritation persists.

Skin Contact: Wood dust of certain species can elicit allergic contact dermatitis in sensitized individuals, as well as mechanical irritation resulting in erythema and hives. Get medical help if rash, irritation or dermatitis persists.

Skin Absorption: Not known to occur under normal use.

Inhalation: Wood dust may cause unpleasant obstruction in the nasal passages, resulting in dryness of nose, dry cough, sneezing and headaches. Remove to fresh air. Get medical help if persistent irritation, severe coughing or breathing difficulty occurs. Provide medical personnel a copy of this Material Safety Data Sheet.

Note to Physician: None

5. Fire and Explosion Data

Flash Point (Method Used): NAP

Flammable Limits:

LFL = NAP

UFL = NAP

Extinguishing Media: Water, carbon dioxide, sand

Autoignition Temperature: Variable [typically 400°-500°F (204°-260°C)].

Special Firefighting Procedures: Use water to wet down wood dust to reduce the likelihood of ignition or dispersion of dust into the air. Remove burned, charred or wet dust to open, secure area after fire is extinguished.

Unusual Fire and Explosion Hazards: Depending on moisture content, and more importantly, particle diameter, wood dust may explode in the presence of an ignition source. An airborne concentration of 40 grams (40,000 mg) of dust per cubic meter of air is often used as the LEL for wood dusts.

NFPA Rating (Scale 0-4):

Health = 1

Fire = 1

Reactivity = 0

6. Accidental Release Measures

Steps to be Taken in Case Material Is Released or Spilled: Not applicable for product in purchased form. Wood dust may be vacuumed or shoveled for recovery or disposal. Avoid dusty conditions and provide good ventilation. Use NIOSH/MSHA-approved respirator and goggles where ventilation is not possible and allowable exposure limits may be exceeded.

7. Handling and Storage

Precautions to be Taken In Handling and Storage: Avoid repeated or prolonged breathing of wood dust. Avoid eye contact and repeated or prolonged contact with skin. Change protective clothing and gloves when signs of contamination appear. These products may release very small quantities of formaldehyde in gaseous form. Under foreseeable conditions of use, these products release less than 0.050 ppm in standard large chamber test conditions. When storing product, the material should be kept off the ground. Store in a cool, dry place and away from heat, flames, sparks and other sources of ignition.

8. Exposure Control Measures, Personal Protection

Personal Protective Equipment:

RESPIRATORY PROTECTION – A NIOSH-approved respirator is recommended when machining, sanding and or sawing this product or when allowable exposure limits may be exceeded.

PROTECTIVE GLOVES – Leather gloves are recommended to minimize potential mechanical irritation from handling dry product. Rubber gloves are recommended when handling wet product.

EYE PROTECTION – Not applicable for product in purchased form. Goggles or safety glasses are recommended when machining this product and in areas with high dust levels.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT – Outer garments may be desirable in extremely dusty areas. If preservatives and/or wood dust accumulate on clothes, launder before reuse. Wash work clothes separately from other household clothing.

WORK/HYGIENE PRACTICES – Follow good hygienic and housekeeping practices. Clean up areas where wood dust settles to avoid excessive accumulation of this combustible material. Minimize blowdown or other practices that generate high airborne-dust concentrations. Wash hands thoroughly with soap and water before eating, drinking, toileting or using tobacco products and avoid direct hand to mouth contact with soiled hands.

Ventilation:

LOCAL EXHAUST – Provide local exhaust as needed so that exposure limits are met.

MECHANICAL (GENERAL) – Provide general ventilation in processing and storage areas so that exposure limits are met.

SPECIAL – Self-contained breathing apparatus (SCBA) recommended when fighting fire.

OTHER – NAP

9. Physical/Chemical Properties

Physical Description: CCA treated Parallam is light green in color consisting of douglas fir, southern yellow pine, hemlock or yellow poplar with a woody odor.

9. Physical/Chemical Properties (cont'd.)

Boiling Point (@ 760 mm Hg):	NAP
Evaporation Rate (Butyl acetate = 1):	NAP
Freezing Point:	NAP
Melting Point:	NAP
Molecular Formula:	NAP
Molecular Weight:	NAP
Oil-water distribution coefficient:	NAP
Odor threshold:	NAP
pH:	NAP
Solubility in Water (% by weight):	Insoluble
Specific Gravity (H₂O = 1):	Variable; depends on wood species and moisture
Vapor Density (air = 1; 1 atm):	NAP
Vapor Pressure (mm Hg):	NAP
Viscosity:	NAP
% Volatile by Volume [@ 70°F (21°C)]:	NAP

10. Stability and Reactivity

Stability: ☐ Unstable ☒ Stable

Conditions to Avoid: Avoid open flame. Product may ignite at temperatures in excess of 400°F (204°C).

Incompatibility (Materials to Avoid): Avoid contact with oxidizing agents and drying oils.

Hazardous Decomposition or By-Products: Thermal decomposition products include oxides of carbon, nitrogen, chromium, copper, and arsenic, as well as aliphatic aldehydes, rosin acids, terpenes, and polycyclic aromatic hydrocarbons. The metals may remain in the ash if the wood is burned.

Hazardous Polymerization: ☐ May occur ☒ Will not occur

Sensitivity to Mechanical Impact: NAP

Sensitivity to Static Discharge: NAP

11. Toxicological Information

Components: No information is available for the product in purchased form. Individual component information is listed below if available.

Wood dust (softwood or hardwood)

Wood dust – generated from sawing, sanding or machining the product – may cause nasal dryness, irritation, coughing and sinusitis. NTP and IARC classify wood dust as a human carcinogen (IARC Group 1). This classification is based primarily on increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. The evaluation did not find sufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust. OSHA hazard rating for wood dust = 3.3; that is, moderately toxic with a probable oral lethal dose to human beings 0.5-5 g/kg (about 1 pound for a 70 kg or 150 pound person).

Formaldehyde

OSHA Hazard rating = 3 for local and systemic acute and chronic exposures; highly toxic. Irritation studies: human skin, 150 ug/3 days, intermittent exposure produced mild results; human eye, 1 ppm/6 minutes, produced mild results.

11. Toxicological Information (cont'd.)

Chromated-Copper-Arsenate (CCA)

Sawdust from CCA treated wood has been shown not to cause chromosome changes in mice fed sawdust or birth defects in mice or rabbits receiving sawdust in their feed or applied to their skin. Recreational exposure to children using CCA treated wood playground equipment has been evaluated. The results of this study indicate that the amount of arsenic transferred from the wood surface to the child is within the normal variation of total arsenic exposure to children and that the maximum risks of skin cancer associated with the exposure approximates the skin cancer risk from the sunlight experienced during play periods. IARC, NTP, OSHA and California Proposition 65 do not consistently distinguish among arsenic or chrome species but list inorganic arsenic and chromium and certain chromium compounds as human carcinogens. Cancers in humans have followed from long-term consumption of fowler's solution (a medicinal trivalent arsenical); inhalation and skin contact with inorganic trivalent arsenical sheep-dust; and the combined inhalation of arsenic trioxide (trivalent arsenical), sulfur dioxide, and other particulates from ore smelting in arsenic trioxide production.

Toxicity Data:

Human inhalation TC_{LO} of 8 ppm reported but response not specified. Human inhalation TC_{LO} of 17 mg/m³ for 30 minutes produced eye and pulmonary results. Human inhalation TC_{LO} of 300 ug/m³ produced nose and CNS results. LC₅₀ (rat, inhalation) = 1,000 mg/m³/30 minutes. LC₅₀ (mice, inhalation) = 400 mg/m³/2 hours. Arsenic Pentoxide: LD₅₀ (rat, oral) = 8.0 mg/kg; extremely toxic.

Source: OSHA *Regulated Hazardous Substances*, Government Institutes, Inc., February 1990. Lewis, R.J., Sr. 1992 *Sax's Dangerous Properties of Industrial Materials*, Eighth Edition, Van Nostrand Reinhold, NY.; NIOSH *Registry of Toxic Effects of Chemical Substances (RTECS)*, 1983-1984 Cumulative Supplement to 1981-1982 Edition and May 1995; OSHA *Regulated Hazardous Substances*, Government Institutes, Inc., February 1990.

Target Organs: None

12. Ecological Information

Environmental Fate: No information available at this time.

Environmental Toxicity:

Study Abstracts:

A technical paper published in the Forest Products Journal (September, 1974) by Levi, Huisinigh and Nesbitt described a study conducted to determine if CCA wood preservative in grapevine support posts might be absorbed by the vines, leaves and/or grapes. This study concluded that "... CCA preservatives are bound in wood, are not readily leached and are not concentrated in plants growing close to the treated wood." The Springborn Laboratories Environmental Sciences Division in 1993 conducted a sediment exposure study using leachate from CCA treated and untreated marine pilings and exposing *Ampelisca abdita* for a period of 10 days. Survival of the organisms during the 10-day exposure period was the biological endpoint used to establish the effects of exposure. Results indicated that leachate from treated pilings had no adverse effect on organism survival. It was concluded that the primary constituents of the CCA-treated wood piling were not present in the leachate at concentrations which would adversely affect the survival of the organisms.

Hickson Corporation conducted tests to evaluate treated wood used in raised vegetable gardens. Vegetables harvested from gardens in raised bed structures built of CCA-treated wood were compared with vegetables grown in untreated raised bed structures and with vegetables purchased at a local grocery store. Testing revealed that all vegetables contained minuscule amounts of each element in CCA. In some cases, the levels of metals were actually higher in the vegetables grown in untreated bins, and in one case the store-purchased vegetable had the highest level of arsenic. The report concluded that there was "no uptake of the metal constituents into the vegetables."

12. Ecological Information (cont'd.)

The Food and Drug Administration's (FDA) "Market Basket Survey" has consistently shown that arsenic in tomatoes is below the analytical level of detection despite the increased usage of arsenically-treated wood for tomato stakes. Moreover, even though CCA-treated wood has been increasingly used in applications such as cattle bunks and stalls and poultry brooders for the last ten years, the FDA survey has shown a decrease in the arsenic content of dairy, meat and poultry products.

A study funded in part by the National Oceanic and Atmospheric Administration (NOAA) and prepared by the Marine Resources Division of the South Carolina Department of Natural Resources in 1995 measured the impact of wood preservative leachate from docks in an estuarine environment.

Copper, chromium, arsenic and polynuclear aromatic hydrocarbons (PAHs) were measured in composite samples of sediments and naturally occurring oyster populations from creeks with high densities of docks, and from nearby reference creeks with no docks. Sediments from all but one site had metal and total PAH concentrations which were below levels reported to cause biological effects, and the oysters showed no significant difference in their physiological condition. Bioassays were also conducted on four common estuarine species and hatchery reared oysters. The results suggest that wood preservative leachates from dock pilings have no acutely toxic effects on these common species, nor do they affect the survival or growth of juvenile oysters over a six-week period. In some cases, metal leachates may accumulate in sediments and oysters immediately adjacent to pilings, but do not appear to become concentrated in sediments or oysters elsewhere in the same creeks.

13. Disposal Considerations

Waste Disposal Method: If disposed of or discarded in its purchased form, ordinary trash collection or burial is acceptable in most states. Do not burn treated wood in open fires, stoves, fireplaces, or residential boilers because toxic chemicals may be produced in the smoke and ash. Treated wood from commercial or industrial use (for example, construction sites) may be burned only in commercial or industrial incinerators or boilers in accordance with federal, state, and local regulations. Do not use treated wood as a compost or mulch. CCA treated wood is not listed under any sections of the Resource Conservation and Recovery Act (RCRA) or Canadian National Pollution Release Inventory (NPRI). This product is not defined as an EPA hazardous waste.

14. Transport Information

Mode: (land, air, water)

Not regulated as a hazardous material by the U.S. Department of Transportation. Not listed as a hazardous material in Canadian Transportation of Dangerous Goods (TDG) regulations.

Proper Shipping Name:	NAP
Hazard Class:	NAP
UN/NA ID Number:	NAP
Packing Group:	NAP
Information Reported for Product/Size:	NAP

15. Regulatory Information

TSCA: The following ingredients are on the TSCA inventory:

Formaldehyde (CAS# 50-00-0)

Arsenic (CAS# 7440-38-2)

Chromium (CAS# 7440-47-3)

Copper (CAS# 7440-50-8)

15. Regulatory Information (cont'd.)

CERCLA: The following ingredients are on the SARA Section 304 EHS and CERCLA Lists:

Formaldehyde (CAS# 50-00-0). This ingredient is also on the SARA Section 302 EHS list.

Arsenic (CAS# 7440-38-2)

Chromium (CAS# 7440-47-3)

Copper (CAS# 7440-50-8)

DSL: The following ingredients are on the Canadian Domestic Substance List (DSL) inventory:

Formaldehyde (CAS# 50-00-0)

Arsenic (CAS# 7440-38-2)

Chromium (CAS# 7440-47-3)

Copper (CAS# 7440-50-8)

OSHA: This product is regulated by the Occupational Safety and Health Administration (OSHA) under the Hazard Communication ("Employee Right-to-Know") Standard (29 CFR 1910.1200).

STATE RIGHT-TO-KNOW:

California Prop 65: This product contains the following ingredients known to the State of California to cause cancer:

Formaldehyde gas (CAS#50-00-0). Weyerhaeuser has evaluated formaldehyde emission rates from its products and has found these rates to be below the "no significant risk level" that would require product warnings.

Arsenic, inorganic arsenic compounds (CAS# 7440-38-2)

New Jersey: This product contains the following ingredients listed on New Jersey's Environmental Hazardous Substance List:

Formaldehyde (CAS# 50-00-0)

Arsenic (CAS# 7440-38-2)

Chromium (CAS# 7440-47-3)

Copper (CAS# 7440-50-8)

Pennsylvania: This product contains the following ingredients listed on Pennsylvania's Hazardous Substance Lists:

Formaldehyde (CAS# 50-00-0)

Arsenic (CAS# 7440-38-2)

Chromium (CAS# 7440-47-3)

Copper (CAS# 7440-50-8)

Wood Dust

Minnesota: NAP

SARA 313 Information: To the best of our knowledge, this product as purchased does not contain chemicals subject to SARA Title III Section 313 supplier notification requirements.

SARA 311/312 Hazard Category: This product as purchased has been reviewed according to the EPA "Hazard Categories" promulgated under SARA Title III Sections 311 and 312 and is considered, under applicable definitions, to meet the following categories:

An immediate (acute) health hazard:	yes
A delayed (chronic) health hazard:	yes
A fire hazard:	no
A reactivity hazard:	no
A sudden release hazard:	no

FDA: NAP

WHMIS Ingredient Disclosure List:

Formaldehyde (CAS# 50-00-0)

Arsenic, elemental (CAS# 7440-38-2)

Chromium, elemental (CAS# 7440-47-3)

Copper, elemental (CAS# 7440-50-8)

16. Additional Information

Date Prepared: 10/01/96

Date Revised: 9/30/2004

Prepared By: Weyerhaeuser Company, Corporate Environment, Health & Safety

Weyerhaeuser MSDS available on: <http://www.weyerhaeuser.com/environment/msds/default.asp>

User's Responsibility: The information contained in this Material Safety Data Sheet is based on the experience of occupational health and safety professionals and comes from sources believed to be accurate or otherwise technically correct. It is the user's responsibility to determine if the product is suitable for its proposed application(s) and to follow necessary safety precautions. The user has the responsibility to make sure that this MSDS is the most up-to-date issue.

Definition of Common Terms:

ACGIH	= American Conference of Governmental Industrial Hygienists
C	= Ceiling Limit
CAS#	= Chemical Abstracts System Number
DOT	= U. S. Department of Transportation
DSL	= Domestic Substance List
EC50	= Effective concentration that inhibits the endpoint to 50% of experimental animals
EPA	= U.S. Environmental Protection Agency
IARC	= International Agency for Research on Cancer
IATA	= International Air Transport Association
IMDG	= International Maritime Dangerous Goods
LCLo	= Lowest concentration in air resulting in death
LC50	= Concentration in air resulting in death to 50% of experimental animals
LDLo	= Lowest dose resulting in death
LD50	= Administered dose resulting in death to 50% of experimental animals
LEL	= Lower Explosive Limit
LFL	= Lower Flammable Limit
MSHA	= Mining Safety and Health Administration
NAP	= Not Applicable
NAV	= Not Available
NIOSH	= National Institute for Occupational Safety and Health
NPRI	= Canadian National Pollution Release Inventory
NTP	= National Toxicology Program
OSHA	= Occupational Safety and Health Administration
PEL	= Permissible Exposure Limit
RCRA	= Resource Conservation and Recovery Act
STEL	= Short-Term Exposure Limit (15 minutes)
TCLo	= Lowest concentration in air resulting in a toxic effect
TDG	= Canadian Transportation of Dangerous Goods
TDLo	= Lowest dose resulting in a toxic effect
TLV	= Threshold Limit Value
TSCA	= Toxic Substance Control Act
TWA	= Time-Weighted Average (8 hours)
UFL	= Upper Flammable Limit
WHMIS	= Workplace Hazardous Materials Information System